

Tourellet (L.A.)

INSANITY AND DISEASE,

✓ BY

L. A. TOURTELLOT, M. D.,

UTICA, N. Y.

Addressed to the Oneida County Medical Society, Oct. 13, 1874.

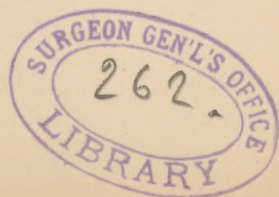


INSANITY AND DISEASE.

MR. PRESIDENT AND GENTLEMEN OF THE SOCIETY :

When it was asked of Aristotle, What is Beauty ? he replied, "A blind man's question." It can not be denied that this answer was as perfect in its logic as in its wit. Beauty exists only as it is seen, and in the seeing. He who has the sense of vision knows what it is, and no definition can add to that knowledge. The blind man may indeed reasonably ask in what beauty consists, but for him an answer must always be impossible. By the same reasoning, it is plain, I might prove to you that, What is Insanity ? is a lunatic's question. To the sound mind, insanity is known as a judgment from the appearance of disorder in the looks, words and actions of another. In the partially insane mind, it is a consciousness of disorder in certain directions of thought or feeling. The wholly insane alone have no knowledge of it in themselves or others, nor can have any.

But we live in a scientific age, and the logical puzzles with which learned men busied themselves for so many centuries are of no value. Such a definition would be satisfactory to none, and least of all to a body of medical practitioners like yourselves, to whom insanity is no ideal thing, but a practical reality which you are almost daily called upon to meet. Is there, then, a scientific definition of insanity ? At the meeting of this Society in April last, the reading of a thoughtful essay on the Classification of Insanity was followed by a discussion of the subject, in which such a definition was proposed. It was asserted that insanity is nothing more or less than a bodily disease, having its specific, anatomical lesion, and that its several forms, even, are linked with special, morbid changes in the brain. As you may remember, I denied that we have any real warrant in medical doctrine for ranking insanity as a form of bodily disease. A proper form of disease should include at least a special lesion, or morbid condition, and a definite series of symptoms ; but mental disorder appears in connection with every kind of bodily lesion, and with none at all. Nor is it found united with any one or more physical symptoms. One such symptom, fever, is sometimes referred to in defining it, but only to require that it shall *not* be present. Hence, the view



of insanity as a bodily disease, I maintained, is a mere provisional hypothesis in medical science.

But, I was told, it is an accepted scientific theory that mental action is a function of the brain, and it follows that mental disorder is to be considered as bodily disorder: therefore, in a certain sense, insanity may properly be held to be disease. And this, no doubt, indicates to us a basis in theory for the relation which we, as medical men, sustain to insanity and the insane. But, with your kind indulgence, I will now inquire what is asserted and implied by those who give to the definition of insanity as disease, its absolute and literal sense. At the same time, I shall endeavor to set forth the limited meaning to which we are bound to restrict it, by reason of our limited knowledge of its terms. In so doing, I shall not occupy your time with abstract speculation alone. We shall see that some important practical matters are involved with the question.

Let me begin by saying that we shall not escape the difficulty of comprehending what insanity is, by refusing to consider certain profound questions which lie directly in our path. To be practical it is not necessary that we should be superficial, but quite the contrary. The essayist and the orator may be content with touching merely the outward aspects of mental disorder, but those to whom matters of public policy, and the issues of life and death even, are committed, should examine it more deeply. And the first step in our inquiry brings us to a fundamental question. Insanity, in its broadest sense, consists in disordered mental phenomena. Now, what is the source of mental phenomena? Of what are they the manifestation or product? For more than twenty centuries, two diverse and irreconcilable propositions have been maintained in answer to this question. The first is, that thought, feeling, and all that belongs to our personal consciousness, are manifestations of a spiritual essence, which is also the first element and origin of all things in the universe. This spiritual principle is for theology the Divine creator of the heavens and the earth. In metaphysics it is called mind, and the human mind, as a part of the Divine, is held to be above and superior to matter and its laws. During the Middle Ages, and down nearly to the present century, the secondary and inferior nature of matter as compared with mind, was a doctrine almost undisputed in the world of learning. This doctrine is reflected in the sentiment which despised and contemned the human body, and discouraged the studies of physiology and pathology. It followed, also, that bodily diseases were attributed to sin, or to possession by evil spirits. Mental disorder, especially, was considered a disorder of the soul, and moral insanity was thought to demand, rather than excuse from, punishment. It is easy to see how such a belief op-

erated to cause that abuse and neglect of the insane which so long prevailed. Its evil effects upon society also appear in the monastic rules, the severe penances, and the thousand extravagancies of religious fanaticism which history records. These, however, do not concern us here.

Now, it is not disputed that mind, as a spiritual existence underlying the mental manifestations, is in itself entirely unknown. We know our own thoughts and feelings, and these, as having totally different qualities from material things, we refer to an immaterial source. But all knowledge of mind, except by way of inference from these manifestations, is impossible for us. The assumption that it exists seems, indeed, almost a necessity of human thought. But, strictly speaking, and aside from the evidence of revelation, this existence must be considered an hypothesis only. It is based upon inferential and not upon demonstrative proofs, and it is opposed to the whole mass of natural facts and laws which modern science has accumulated. These facts and laws, indeed, urge upon us, with constantly increasing force, another hypothesis, which must now be considered.

The second of the two schemes which have divided the world of philosophy, and offered an explanation of mental phenomena, is the materialistic one. It declares that matter, and not mind, is the primitive and original element, of which mental phenomena are only the functional product. This hypothesis, it must be admitted, has the advantage over the other of priority and antiquity. As shown by Mr. Tylor, in his work on "Primitive Culture," no conception of a spiritual existence was reached under the earlier civilizations. Science and philosophy began and ended in the purest materialism. What we term the spirit or soul was, to the primitive races, only a material substance, of such extreme tenuity as to be invisible and impalpable under ordinary circumstances. This soul bore the form of the organism to which it belonged, and which it generally occupied and controlled. But it was very liable to be dispossessed by another soul, or at least overpowered and made to submit. Thus, the "evil-spirit" which controlled Saul was not a spirit at all, but a vaporous, shadowy kind of being, such as a ghost is still supposed to be. Of this kind were all the evil and good spirits which play so important a part in the Old Testament, and earlier Christian writings. Not only insanity, but all the phenomena of disease and depravity were attributed to them. Even in the writings of Plato, we find a materialism thorough enough to satisfy the most advanced thinkers of the modern school. "No one," says he, "is voluntarily bad, but he who is depraved becomes so through a certain bad habit of body, and an ill-regulated education." Soon after the time of Plato, however, the notion of an immaterial principle in man began to appear, and a precise and

logical conception of it was finally worked out by the philosophers of Christianity. How antagonistic to medical science were their teachings, and how prejudicial to the welfare of the insane, I have already noticed.

But has any progress been made in the modern attempts to prove mental phenomena nothing more than a product of matter? Several members of this Society remember the time when Gall and Spurzheim taught the doctrines of phrenology, which were founded upon this theory. The metaphysics of the Schoolmen are not now more thoroughly discredited than these doctrines, so far as they are concerned with the mental faculties in health. In the sphere of insanity, however, Dr. Ray and others have gained for them a degree of credit in this country, and in Great Britain they have an able advocate in Dr. Henry Maudsley, author of an elaborate work on the "Physiology and Pathology of the Mind." In this work he declares the well-known proposition, that "the brain secretes thought as the liver secretes bile," to be "not a just expression of the facts." But that it is not, he thinks, is only because of a difference in the results of functional action in the two cases. Thought is to him "the energy of the nerve cell," as the functional action of the liver is that of the hepatic cell. Moreover, this "nerve cell," whose function is thought, he represents as a known or knowable reality; while mind, as the underlying source of thought, is "a metaphysical abstraction" only. The chief purpose of his book is, avowedly, to prove that mental action is intelligible to us as brain-function, just as secretion is as a function of the liver. There is no essential difference between his view and that of Cabanis.

On the one hand, then, mind is declared to be a spiritual essence, imprisoned temporarily in the body, whose members are its feeble and unworthy instruments. This theory makes insanity a disorder of the soul, and little more than a species of moral evil. On the other hand, mind is held to be a fiction, and thought and feeling simply the product of a physical organ. It would follow not only that insanity is a physical disease, but that sanity is a physical fact, and free-will and moral responsibility mere delusions. How shall we reconcile these two contradictory and mutually destructive propositions? A reconciliation is plainly impossible; and when we come to examine them closely, it appears that in asserting the truth of either we have gone beyond the bounds of what is known, or what is possible to be known. This, you need not be told, is the doctrine of the relativity of human knowledge, which is now generally accepted by both spiritualists and materialists. All our knowledge is of phenomena only. "What it [mind] is in itself," says Sir William Hamilton, the great opponent of materialism, "we know nothing." And the foremost materialistic philosopher,

Herbert Spencer, declares: "The substance of mind can not be known." Both assert substantially the same of matter, and Huxley says, explicitly: "We can have no knowledge of the nature of either matter or spirit. Matter may be regarded as a form of thought; thought may be regarded as a property of matter. Each of these has a relative truth. Matter and spirit are but the names for the imaginary sub-strata of groups of natural phenomena." It is easy for us, of course, to acknowledge our ignorance of the nature of mind. A moment's thought will convince us that we are equally ignorant of the real nature of matter. We know only the sensations which material objects induce in us. The physical atom is just as invisible and intangible for us as spirit. Du Bois-Raymond frankly declares the atom of matter to be no more than "a fiction quite congruous in itself, and under certain circumstances a useful fiction in mathematical physics." The true substance of matter is, then, no less an abstraction from the phenomena of sense, than that of mind from the readings of consciousness. But if we know nothing and can know nothing of either, we have no warrant for saying that the mental faculties are simply a function of the brain. It is this assumption, however, which Dr. Maudsley declares "a fundamental principle upon which the fabric of a mental science must rest." There is no doubt, gentlemen, that it is our part as physicians to study the mental phenomena from the side of bodily organization, and in the light of physical laws. But our psychological doctrines will be less likely to lead us into practical error, if we remember that their "fundamental principle" is, after all, only an hypothesis.

Although not sound in his philosophy, I am bound to admit that Dr. Maudsley is, at least, logical in his reasoning. The most futile efforts have been made by his disciples in this country to hold sanity as a spiritual fact, while insisting that insanity is solely a physical one. Of such attempts Dr. M. pithily says: "To write as if sanity is a thing of the immaterial and insanity a thing of the material world, is to infer that men are furnished with brains only that they may become insane." That unsound mental phenomena are the product of a diseased brain, and that sound ones are not the product of a healthy brain, is indeed an absurd proposition. The fact that "the physiology and pathology of the mind are two branches of one science," as Dr. M. declares, is beyond dispute; and he does not shrink from the logical consequences of this position. But in a paper on "The Dependence of Insanity on Physical Disease," read by Dr. John P. Gray before the New York State Medical Society, we are presented with a view of insanity from both the spiritual and the material stand-points at once; which is, of course, as successful as an attempt to ride two horses in opposite directions. In the first place, Dr. Gray wishes it to be

understood that he is "no materialist" in his views. He does not "look at mind from the stand-point of regarding it as nothing more than the results of cerebral action." He attributes to it both "spontaneity and responsibility." Moreover, that "the spiritual principle, the immortal being can not be the subject of disease," he is certain. But "we say," he writes, "that insanity is a bodily disorder; that it is a disease of the brain." The morbid mental phenomena are to him simply "exponents of physical states," while to treat of healthy thought and feeling as such, he denounces as "an attempt to revive the exploded vagaries of the French materialism of the Encyclopedists and the Revolution." A logical faculty which seems the proper complement of this talent for first principles, is exhibited in the following:

"We hold that it is not necessary in order to establish the physical origin and nature of insanity, or other cerebral diseases, to show that every case is of such origin and nature. If, in a single case, insanity is shown to come on as the result of well-recognized bodily disease, and the mental disturbance disappears *pari passu* with the physical restoration, the argument is invincible."

This "argument," translated out of mental pathology into meteorology as a model for the Weather Bureau at Washington, would read as follows: We hold that in order to prove the earth's shadow to be the cause of rain, it is not necessary for a shower to occur at the time of every lunar eclipse. If this should take place in a single instance, and the rain cease *pari passu* with the re-appearance of the moon, the argument would be invincible. I need hardly ask with what hope of success this method of reasoning, which we may describe as a combination of the *post hoc ergo propter hoc* with that of induction from single instances, can be applied to the intricate problems of mental pathology. To repeat the microscopic examinations of diseased brain made by Virchow and others, and described in the recent text-books, is not difficult, but to connect the lesions thus found with mental disorder is clearly beyond the reach of such generalization.

Is not this task, indeed, an impossible one, even to the most gifted and best-trained human intellects? In regard to mental action and the molecular processes of the brain in health, Tyndall asserts that "we do not possess the intellectual organ, nor apparently any rudiment of the organ, which would enable us to pass by a process of reasoning from one phenomenon to the other." But I have already quoted from the highest authority to this effect. Need I say again how infinitely beyond the scope of our senses, with their utmost mechanical aids, are the spiritual mind and the material atoms which we suppose to be the sources of these phenomena? Upon neither point has there been any difference of opinion among philosophers and men of science, since the downfall

of phrenology. And now, upon the principle laid down by Maudsley that the connection of mind and brain is the same in disease as in health, we must conclude that it is impossible to demonstrate, or even to conceive, the dependence of insanity upon brain-disease. Here, also, I might quote at length from standard authorities in mental pathology. Leidersdorf declares such a demonstration "outside the realm of possibility," and Griesinger ridicules the "belief that every mental disorder must correspond to a palpable cerebral lesion."

Nothing, however, is impossible to Dr. Gray, in his enthusiasm for anatomical research. In the paper already referred to he has proposed, as an outline of his investigations, certain questions, which it will be profitable to notice here. The first is, "Whether there are specific changes in the brain in insanity." Now, whatever we may or may not infer from the co-existence of mental disorder and brain-disease in many cases, the search for a specific lesion in insanity is as thoroughly opposed to all current scientific theory as that for the philosopher's stone. Brown-Séquard could wish no better proof than this question affords, of his charge that "physicians adhere too pertinaciously to old views." As he expresses it, "we are constantly holding on to our old clothing, wearing it when it is worn out." Obviously, this question of Dr. Gray can only have been suggested by the worn-out materialistic theories of the last century. Let us look at it in the light of our explanations of other morbid phenomena. We find that spasm may result from an infinite variety of morbid conditions in different parts of the body, and no one doubts that the irritation thus set up is translated into motion without any intervening specific lesion in the spinal cord. Is thought more closely bound up with tissue-changes than nervous action, that we must needs suppose for it such a lesion? Again, it is surely no less easy to believe that morbid mental action is independent of a specific tissue-change than that morbid sensation is. Yet we do not gravely seek with the microscope for a specific lesion in headache or dyspepsia. To show the unreasonableness of the very question raised by Dr. Gray, Griesinger asks what lesion we should expect to find in the brain of one who dies during sleep. "And yet," he says, "sleep is a change in the psychical functions even more decided than is observed in any form of mental disease." In the recent McCormack case of hydrophobia, you may remember that Dr. Hammond found a great degree of granular and fatty degeneration of the nerve-centres. But he protests, to the profession and the public, that he is "not such an ass" as to suppose he has discovered the essential condition of the disorder. Brown-Séquard, in the lecture already quoted from, declares that no tissue-changes discoverable in the brain can be the specific cause of paralysis. And the proof of this is, that every

variety of such change may be present without paralysis, and paralysis may exist in the absence of any lesion whatever. This argument is, of course, equally unanswerable as applied to insanity. It has been abundantly proved that every kind, and almost every degree of brain lesion—even, as Brown-Séquard reminds us, to the complete destruction of one-half the brain—may appear without insanity, and that insanity is found in cases in which the brain is perfectly free from any morbid change.

The second of Dr. Gray's questions is properly a part of the first. The third is as follows: "Are there *post-mortem* appearances in the brains of those who die insane, which would justify the assumption that morbid cerebral changes were the potential and only ultimate causation of insanity?"

Not only the assumption, but the question, even, is without excuse. Suppose that, ignoring the all-important agencies of inherited and acquired predisposition, I should ask you whether tubercle is not "the potential and only ultimate causation" of phthisis. It is probable, however, that Dr. Gray intends simply to inquire whether morbid appearances of some kind may not be found in the brains of all who die insane. If so, we shall be warranted in speaking of brain-lesions in general as the proximate cause of insanity. The facts must have their due interpretation, whatever confusion they may bring into modern theories. But is Dr. Gray aware that facts which are decisive against his view of the question have been accumulating for nearly half a century? Whether there is any constant relation between brain-lesions and insanity, is only another phase of the question whether the brain-dimensions, size, weight, etc., bear a constant relation to the mental faculties in health. Both had their origin in the crude, mechanical theories of mind and brain which bore the name of phrenology, and neither should be proposed by one who has discarded the "old clothes" of that pseudo-science.

Dr. Gray's fourth question is: "Are there any sound reasons for an assumption that the mind can overthrow itself, independent of cerebral changes?" No one, in the present century, has denied the doctrine that mind is manifested to us only in connection with such changes. Whether "the mind can overthrow itself," in any way, is, I suppose, very much like the question whether one of you can raise himself to the ceiling by lifting at his waist-band. Moreover, the experiment must be dangerous as well as difficult to the mind, and it is to be hoped that this inquiry will not be pressed.

But I would not speak with undue levity of Dr. Gray's investigations. Nor, if possible, would I be misunderstood in the criticism which has been ventured in regard to them. While both enlightened theory and the widest research forbid the hope of finding any definite or constant relations between tissue-changes and mental

disorder, yet it is certain that this insoluble problem will always attract scientific curiosity. Nor is it improbable that some partial light, which may be useful as a guide to practice, will be thrown upon it by inquiries of a truly scientific kind. What has seemed to me due to the public and to ourselves is, to expose some of the false theories and inconsequent reasonings which have been offered to us upon the subject.

It remains for me to consider some practical doctrines which have been based upon these erroneous theories. Let me begin by stating, briefly, the current scientific view of the causation of insanity. Far more efficient than any or all other causes, is an innate vice or taint of the nervous element, which is usually inherited but may also be slowly acquired. No one has yet claimed that it may be possible to find any trace of this cause in the brain. The secondary or proximate causes of insanity are divided into the moral and physical. Of these, Maudsley says: "The moral causes are generally, though not universally, held to be more frequent than the physical." This, you will observe, is the testimony of one who holds extreme physical theories. How moral causes, such as grief, alarm, etc., produce morbid thought, we do not know; any more than we know how other mental impressions produce healthy thought. Physical causes give rise to insanity, according to Brown-Séquard, through an irritation sent from the diseased part, wherever it may be, to the brain-cells. Maudsley uses the phrase "reflex action or sympathy," to denote the same mode of action. Both believe that a change in the molecular activity of the brain accompanies the change from healthy to morbid mental action. Neither of these, nor any other authority, supposes that this irritation or molecular action is any thing appreciable to our senses. As for the morbid appearances which occur in the brain in connection with insanity, they may be the sources of the irritation which has caused it; or an "effect and evidence of the morbid action of nervous element," as Maudsley thinks.

And now to contrast with this Dr. Gray's theory of causation, as set forth in the paper already referred to. He makes no account of the all-powerful causes of inherited and acquired predisposition, and believes that the sole cause of insanity is a tissue-change or changes in the brain, which are or may be recognized by the senses. The primary cause may indeed be, he thinks, "in disease of any part of the organism; but in such cases insanity is not manifested until the brain is actually involved." As for moral causes, he denies their existence. "Still," he says, "there are cases where the general ill-health and the insanity are due to an overworked brain, or the anxiety and prolonged tension and sleeplessness which are often the result of grief and pecuniary losses. Even here, however, the cause is physical, because insanity comes on only as a result of

defective nutrition in the tissues." Upon this extraordinary assumption, physical causes alone have been recognized in Dr. Gray's reports for the last seven years.

The practical mischief of these doctrines is manifold. In the first place, the warnings to persons predisposed to insanity of danger from certain moral and mental influences, are deprived of their force. If insanity can only be brought on in an indirect way through positive bodily disease, these causes are in truth unimportant. But a far greater evil is the denial which follows as a corollary of the above, that moral agencies are of any worth as a curative means, and the importance given to treatment by medicines. This conclusion Dr. Gray adopts, with an unaccustomed regard to the logical connection of his doctrines. "Whatever the cause may be," he says, "the condition in insanity is cerebral disease." And again: "The physical lesions are the subjects of primary importance." The mental manifestations are "only significant of conditions of the nervous system, which conditions are to be treated." It is not necessary, I trust, to bring authorities in proof of the trifling value of medicines in mental disorders. That moral agencies are by far the most important means of treatment, is a well-established doctrine. It is this which has caused beautiful edifices and grounds, with pictures, statuary, and the like, to be everywhere provided for the insane. The notion that insanity proceeds from an anatomical lesion of the brain, to be sought for by the microscope and cured upon some chemical or mechanical theory of treatment, has no place in medical science. I do not hesitate to say that it has less foundation, in reason and fact, than the theories of consumption which are found in the advertising columns of the newspapers.

The doctrine that insanity is brain-disease, has also led Dr. Gray to rest his diagnosis of insanity mainly upon bodily conditions. Griesinger, the great advocate in Germany of physical theories of insanity, is forced to admit that "the symptoms of mental diseases consist only to a small extent of definite, isolated, unmistakable morbid appearances, and never, in any case, of directly palpable and physical signs." Still more explicitly, he also says: "The diagnosis depends essentially and exclusively on the mental symptoms." But, in Dr. Gray's opinion, "what are denominated mental symptoms have a subordinate place in diagnosis, as well as treatment." I believe this view has not been accepted by the courts in determining legal questions of insanity, but the plan of testing the diagnosis in criminal cases by a *post-mortem* examination seems to be approved. You will remember that the brain of the murderer Waltz was examined after his execution, and a certificate that it was "entirely free from disease" published in proof of his sanity. Perhaps, however, the severest test of this new phase of physical diagnosis yet recorded, is found in the case of Mrs.

Heggie, who murdered her two daughters near Ithaca, N. Y., in 1864. Evidence of mental defect and eccentricity was given on her trial, but insanity was not proved, and she was sentenced to imprisonment for life. Upon her death, a few weeks since, the brain was sent to Dr. Gray for examination. Whether any physical traces were found of the possibly morbid suspicion and jealousy which led to the homicide ten years ago, has not yet been announced. But is it not curious that the doctrine of one who is "no materialist," but believes that "the mind exercises choice and controls itself," independently of the brain, should be the ground of such an expectation? Contrariwise, Dr. Maudsley, who does not wince at the charge of materialism, declares it "beyond question that there may be the difference between life and death in the condition of the brain without any appreciable physical or chemical changes." Is the difference between sanity and insanity more conceivably a physical difference than that between life and death?

But I must point you to one other evil, of perhaps greater magnitude, which is directly due to Dr. Gray's false theory and vicious reasoning. You are doubtless aware that the demand for new hospital-asylums, to provide for all the insane of the State, has been based mainly upon the doctrine that insanity is a bodily disease, easily curable in its early stages. At length, the Legislature of this State was prevailed upon to authorize the building of two such asylums. And as they were in the end to save vast sums of money through the speedy cure of those who must otherwise, as incurable, become a public charge for life, it was not necessary to spare expense upon them. These asylums, in fact, were planned to require an outlay of from eight to ten millions of dollars for a total capacity of eight hundred patients. Now I need not stop to prove to you how even more absurd is the plan of "stamping out" insanity by medical treatment than that of exterminating cancer and scrofula would be. The serious proposal of such a scheme by a medical man in any part of Europe would be enough to brand him as a visionary or a quack. That it should not only have been proposed, but apparently accepted as the basis of a policy of provision for the insane in this country, seems hardly credible. But, as you know, the policy is still urged upon our State Legislatures, and the argument for it is repeated in nearly all our asylum-reports, year after year. This argument, indeed, is not without a certain plausibility. It affords, moreover, a striking illustration of one class of the objective difficulties in the way of the study of social questions, as pointed out by Herbert Spencer in his work on "The Study of Sociology;" namely, the very serious fault of the perversion of evidence by the substitution of inferences for facts. I quote a brief statement of it from Dr. Gray's last report to the Legislature: "It is believed that the percentage

of recoveries would be much larger if insane persons were subjected to proper medical treatment during the early stages of the disease. A recovery of four-fifths might reasonably be expected if treated within three months from the first attack. If twelve months are allowed to elapse, the same proportion may be considered as incurable."

This, you will see, is a thoroughly erroneous inference from admitted facts. The facts are, that in analyzing the whole number of cases admitted to an English asylum during a certain period, it was found that of those received within three months of their attack, four-fifths recovered; and that of those whose insanity had lasted a year or more, four-fifths had proved incurable. That the inference as to the curability of insanity from these facts must be incorrect, appears from the history of provision for the insane in every civilized country. If it were correct, the increase of hospital-asylums should have been followed by a decrease in the number of incurables, as the public is asked to believe will be the case in the future. But statistics show that this number has been and is steadily increasing with the increase of asylums. The fallacy of the inference, however, appears from a moment's examination of the facts themselves. In order to draw sound conclusions from a numerical analysis, it is of course necessary that the facts should all be of the same kind. But those taken for the analysis referred to differed very widely from each other. Of the cases in which insanity had lasted three months or less, many were only severe cases of delirium from alcoholic, malarial or other blood poison. Others were cases of transitory mania or melancholia. In others, still, the delirium was symptomatic of inflammation of the brain or its membranes. In all, the attack was sudden and violent, the necessity for an asylum immediate, and the paroxysm of brief duration. It is quite certain that four-fifths of such patients will recover, even without special treatment. But, on the other hand, those patients brought to the asylum a year or more after their attack were of a wholly different class. The type of their mental disorder was fixed delusion, or perhaps dementia. They were, in fact, mostly cases of insanity in the medical sense, which is that of chronic mental disorder. And their insanity was chronic not only in its fully developed stage, but in the stage of invasion. Here the fallacy of the statistical inference becomes plain. Most of these cases never presented any "early stages." It was never possible to bring them to an asylum "within three months of the date of their attack." Their insanity came on imperceptibly, and opinions might differ several months, or even years, as to the time of its beginning. When we consider that a large majority of the patients admitted to asylums are of this class, and that nine-tenths of this majority are hopeless of recovery from the first, we can not

but be astonished at such a misinterpretation of facts by those to whom they are best known. To place this fallacy in a clearer light, let us imagine it necessary to bring together in a public institution all the cases of headache found in a community. We should have represented, headache from nervous exhaustion, from disordered stomach, from a diseased uterus and other sources of reflex irritation; the headache of gout, of rheumatism, and of other usually inherited bodily conditions; and finally the headache of cerebritis, meningitis, brain-tumors, and softening of the brain. Some of these cases would be cured by a few hours' rest; others by a purgative dose. Another class would recover in a few days under any or no treatment, but the headache would return at certain intervals as regularly and unpreventibly as the tides. To another class, those with organic brain disease, death only would bring relief. Now, what should we think of the medical theory which considered all these as cases of one form of disease, due to morbid changes in the brain, and these hypothetical changes "the subjects of primary importance," both as to diagnosis and treatment? And what of the argument that recoveries from simple nervous headache were proof of the curability of headache from brain-tumors or inherited gout, when taken in its early stages? What do we, in fact, think of the representations of the notorious Dr. Canceroid, of a neighboring city, according to whose frankly mercenary doctrine all suspected enlargements are ranked as carcinoma, and who attracts the wretched victims of cancer by the cure of fatty and other benign tumors?

After what has been said, you will not expect me, in closing, to present you with a definition of insanity as a physical fact. The term is a purely metaphysical one, and can not be translated into the language of natural science. To say that insanity is morbid energy of the nervous element, is to state what we all admit to be a legitimate scientific hypothesis, but at the same time know to be worthless as a definition. On the other hand, a precise definition from the side of mental science is acknowledged to be impossible. Taken in its broad sense, the word simply denotes a marked degree of mental disorder. What that degree is, depends upon the practical issue presented in each case. In highly civilized countries a moderate degree only, more or less incapacitating for the due performance of the social relations, constitutes insanity, and entitles its subjects to the charity and protection of the State. Where it is claimed to excuse from the punishment of crime, a high degree of mental disorder is required to be shown. Other degrees are necessary in order to make void a will, or excuse from the performance of a contract. A slight degree only may constitute a medical case of insanity, of the greatest interest and importance. In a narrower and technical sense, insanity denotes chronic

mental disorder not obviously belonging, as a symptom, to some recognized form of bodily disease.

But before I conclude this paper, let me give the precise meaning which the representation of insanity as bodily disease is entitled to convey. It is nothing more than the bare statement of a scientific hypothesis. There are certain unknown relations between morbid bodily and mental symptoms which we desire to study, and *solely to limit and describe our point of view*, we lay down the proposition that insanity is bodily disease. Beyond this use it has no force, no validity. The doctrine that mental action is bodily function, can only be held, I believe, in the same restricted sense. It is in this sense that Dr. Hammond writes of mind "from the stand-point of regarding it as nothing more than the result of cerebral action." He has not the least notion of asserting that it is "a material substance, a mere secretion liable to disease and death," as Dr. Gray strangely supposes. With the same meaning, it has been declared that crime is disease; and we know that these two subjects are worthy of a careful study in their relations to each other. But the advocate who should rest the defense of his client upon the theory of their absolute identity, would not be very likely to win his case or add to his reputation. It is also held that inebriety is disease; and we all remember the absolute sense which Dr. Turner, the first superintendent of our State Inebriate Asylum, gave to the assumption. A noble institution was brought to the verge of ruin by this audacious charlatan, as much through his medical quackery as his financial dishonesty. The quackery consists, of course, in holding that the point of view of disease is supremely important, and indeed the only legitimate one, in dealing with the question of inebriety. It is certainly not too much to say that in nineteen cases of drunkenness out of twenty, the element of disease is of no practical importance.

But I have referred to these subjects only by way of illustration. That insanity is disease is certainly a more important hypothesis to medicine than those which assume the same point of view for inebriety and crime. Nor do I wish, by any means, to deny to it a real interest and value. What I have chiefly aimed to show is, that as a positive doctrine of medical and social science this merely provisional assumption is false and misleading. That it is known to be so by the medical politicians who have almost hopelessly perplexed the problem of provision for the insane by refusing to consider it from any other stand-point than that of disease, we need not believe. But the fallacy of their argument is so apparent, and its practical falsity so abundantly proved, that it is necessary to credit their honesty at the expense of their intelligence. The millions which have been squandered upon the new asylums at Buffalo and Poughkeepsie are indeed an argument

which could not fail to impress itself upon the State authorities and the public. The lesson has been a costly one ; but if a sacred and important function of the State shall be finally rescued from the control of interested specialists and professional politicians, its cost has not been too great.

